

WHAT IS CLAIMED IS:

1. An image formation apparatus comprising:
image formation means for forming toner images on an image holding member;
primary transfer means for transferring toner images formed on the image holding member onto an intermediate transfer member at a primary transfer portion;
secondary transfer means for transferring toner images on the intermediate transfer member onto a recording medium at a secondary transfer portion; and
a contact member which is electrically grounded and first contacts the intermediate transfer member downstream of the primary transfer portion in the moving direction of the intermediate transfer member,
wherein the following relation is satisfied:
$$-2.0 \leq \ln(V_{tr}) - L / (s \times \log p) \leq -1.0$$
where:
L (mm) represents the distance from the primary transfer portion to a position where the contact member first contacts the intermediate transfer member,
V_{tr} (V) represents the absolute value of a voltage applied to the primary transfer means,
s (mm/sec) represents the moving speed of the intermediate transfer member, and

ρ (Ω/\square) represents the surface resistivity of the intermediate transfer member.

2. An image formation apparatus according to Claim 1, wherein the primary transfer means include a transfer member that contacts the intermediate transfer member.

3. An image formation apparatus according to Claim 1, wherein the intermediate transfer member has a belt shape, and the contact member has a roller shape.

4. An image formation apparatus according to Claim 3, wherein the contact member is a driving roller which moves the intermediate transfer member, and the following relation is satisfied:

$$20 \leq (\log \rho) \times R \times \theta / 360 \leq 200$$

where:

R (mm) represents the diameter of the driving roller, and

θ represents the winding angle of the intermediate transfer member about the driving roller.

5. An image formation apparatus according to Claim 3, wherein the contact member is a driving roller which moves the intermediate transfer member, and the relation of

$$160 \leq (\log \rho) \times R \times \theta / 360 \leq 200$$

is satisfied

in which R (mm) represents the diameter of the driving roller, and

θ represents the winding angle as to the driving roller of the intermediate transfer member.

6. An image formation apparatus comprising:

a developer that forms toner images on an image holding member;

a primary transfer device that transfers toner images formed on the image holding member onto an intermediate transfer member at a primary transfer portion;

a secondary transfer device that transfers toner images on the intermediate transfer member onto a recording medium at a secondary transfer portion; and

a contact member which is electrically grounded and first contacts the intermediate transfer member downstream of the primary transfer portion in the moving direction of the intermediate transfer member,

wherein the following relation is satisfied:

$$-2.0 \leq \ln(V_{tr}) - L / (s \times \log \rho) \leq -1.0$$

where:

L (mm) represents the distance from the primary transfer portion to a position where the contact member

first contacts the intermediate transfer member,

Vtr (V) represents the absolute value of a voltage applied to the primary transfer means,

s (mm/sec) represents the moving speed of the intermediate transfer member, and

ρ (Ω/\square) represents the surface resistivity of the intermediate transfer member.

7. An image formation apparatus comprising:

image formation means for forming respective toner images on a plurality of image holding members;

primary transfer means for transferring the respective toner images formed on the image holding members onto an intermediate transfer member at respective primary transfer portions, the toner images being superposed one on another to form a multi-toner image;

secondary transfer means for transferring the multi-toner image on the intermediate transfer member onto a recording medium at a secondary transfer portion; and

a contact member which is electrically grounded and first contacts the intermediate transfer member downstream of the primary transfer portions in the moving direction of the intermediate transfer member,

wherein the following relation is satisfied:

$$-2.0 \leq \ln(Vtr) - L / (s \times \log \rho) \leq -1.0$$

where:

L (mm) represents the distance from a last primary transfer portion to a position where the contact member first contacts the intermediate transfer member,

Vtr (V) represents the absolute value of a voltage applied to the primary transfer means,

s (mm/sec) represents the moving speed of the intermediate transfer member, and

ρ (Ω/\square) represents the surface resistivity of the intermediate transfer member.

8. An image formation apparatus according to Claim 7, wherein the respective toner images include four different color toner images, and the multi-toner image is a four-color toner image.